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Should Cousins Marry?

By Dr. Andrew Wilson. See page 114.

HEALTH

A WEEKLY JOURNAL OF

DOMESTIC AND SANITARY SCIENCE.

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EDITED BY DR. ANDREW WILSON, F.R.S.E. &c.

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◆ HEALTH ◆

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

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Notes by the Way

BY THE EDITOR.

"Health is the foundation of all our physical happiness."—*Herder.*

FASHIONABLE dames, I have always held, only require re-direction of their energies to become useful members of society. Under the title of "A Ladies' Early Morning League," a Paris correspondent says that some ladies belonging to the highest circles of Parisian society have conceived the happy idea of founding a new society which desires to alter prevailing fashions, so that the customs of society may better harmonize with the laws of health. The ladies advise that all the members of the society should make it a rule to rise at seven in the morning, and, after taking a cold bath, proceed to enjoy an early canter on horseback. Friends are to be entertained at lunch rather than at dinner. The pleasures of the morning and the afternoon are to be preferred to those of the evening. Henceforth balls are to commence at nine o'clock and finish at midnight.

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ON the evenings when members do not go to any ball, they are to retire to bed at ten o'clock. All athletic exercises are encouraged, and notably fencing, which is becoming more and more fashionable among ladies. Unfortunately, adds the account from which I quote, these projected reforms do not take into consideration the hard necessities of life. They pre-suppose a society of pleasure-seekers and idlers. Putting aside the fact that the number of ladies who work is daily increasing, most men, even those who possess independent incomes, are engaged in some active profession or business. They could not attend at the early lunch, the early ride, and sometimes not even at the early ball. If social entertainments have gradually been held at a later and still later hour, it is because the pressure of the day's business has so increased as to render these late hours more convenient. They are, however, none the less unhealthy, and Parisian ladies are to be congratulated on their effort to turn the tide of fashion and to bring people back to more primitive and more natural customs.

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DR. GARSON and Mr. Bloxam, in the course of their report on the work of the Anthropometric Laboratory, give the following particulars regarding tight-lacing and its effects on the breathing organs. As bearing upon the cause of the inferiority and dissimilarity in the breathing capacity of women compared to men, Dr. Garson stated that when measuring the breathing capacity in the laboratory, he could not but observe that the power of inspiration (or breathing "in") was much more limited by the dress of women than of men, and that while in the latter the whole chest expanded in forced inspiration, in women the expansive movement of its lower portion was much diminished by the resistance of their corsets.

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THE anatomical conformation of the chest shows that the greatest lung capacity is situated at the lower half of the chest-cavity. The pressure of the stiff and inelastic corsets ordinarily worn by ladies approximates the conjoint cartilages of the false ribs on either side, so that the rib angle is made much more acute than it normally should be. The lower ribs are straightened, and their elevation and lateral expansion during forced respiration is greatly reduced; the liver is pressed upwards and fixed by the ribs, the stomach and spleen are pushed upwards, the abdominal walls are pressed backwards in front, and so force the intestines downwards towards the pelvis; compression of the abdominal veins also occurs.

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As a result of these changes in the position of the abdominal organs, the diaphragm is prevented from

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descending as it should do during inspiration. This, combined with the non-expansion of the ribs, reduces the space which should be available for air, and so causes the diminished breathing capacity in the females as compared with the men. Confirmatory of this, the effect of compression of the chest walls in reducing the breathing capacity is well known to surgeons in connection with the application of the plaster-of-Paris jacket, when, unless care is taken to have a quantity of elastic material under the jacket, it may cause death by interfering with respiration.

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Direct evidence of the baneful effect of stays in reducing the breathing capacity is obtainable from the table showing the difference between the breathing capacity of men and women at different ages. While that of men steadily decreases in actual amount, as well as relatively to the stature, as age advances, that of women, from the age of thirty years and upwards, remains for the next two decades practically stationary, and then rises somewhat in actual amount relatively to the stature; it increases, however, steadily as age advances from the third decade of life, when the breathing capacity per inch of stature is at its lowest. The habits of social life of the better classes seem to have a close connection with these variations.

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About the age of thirty, women frequently become stouter; and it is well known that ladies who wish to preserve what they term "good figures" must now be particularly careful of themselves. The constriction of the waist begun ten years or more previously is now rigidly practised — proportionately, perhaps, even to a greater extent than previously. But from about the fortieth year onwards less importance is attached to slimness of waist, consequently the stays are worn looser; the body gradually recovers, to a certain extent, from the constriction of the waist, and the breathing capacity correspondingly increases. The harmfulness of tight corsets is, therefore, clearly shown by the above observations.

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Dr. Dumont, of Louvain, has made a series of researches on the effect of coffee-drinking on the work of the kidneys. It appears that, though the daily quantity of urine is not seriously interfered with, the composition undergoes a very decided change after coffee-drinking. Dr. Dumont fed the subjects of his researches for some days on ordinary diet, the constituents of which were known. During part of the time only was coffee added, the quantity being three cups—corresponding to about two ounces of roasted coffee—per diem.

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By regular and careful analyses of the kidney-secretion, it was found that during the days when coffee was taken the urea (or nitrogenous waste) passed was increased by about seventy-five grains. The effect on the urea was produced immediately the coffee was commenced, and as soon as it was omitted the quantity of urea returned to that which it had exhibited previously. This result would appear to show that coffee increases the tissue-change, and expedites what is known as "metabolism," or the transformation and excretion of nitrogenous matters.

Original Essays

"Life is not to live, but to be well."—*Martial.*

SHOULD COUSINS MARRY?

By Dr. Andrew Wilson.

The question which heads this paper is one which is repeatedly put to medical men, and it is also a query which is perpetually recurring in the correspondence pages of this journal. That it involves a topic of widespread interest is not to be denied; that it involves physiological details of some high degree of complexity is equally plain. Let us try to discover if the inquiry admits of any definite answer being given; or, primarily, if the question is in itself capable of being answered at all.

"Consanguineous marriages"—that is, the union of those who are near of kin and in any degree blood-relations—have never been viewed with favour by the public, or by the majority of the Churches. The latter, in prohibiting such marriages, and in laying down rules regarding whom a man and a woman may and may not marry, doubtless interpreted the spirit of customs which were infinitely more ancient than the old ecclesiastical laws on which the permissions or prohibitions were founded. Laws, whether compounded by priests or lawyers, represent the outcome of long national experience. Like proverbs, they represent the collective wisdom of a nation; and are the result of long-continued observation of social or political movements. In the case of the laws and customs dealing with marriage, we can understand how the laws regulating that state of life early came to be expressed in definite characters.

Marriage, as a social institution, was exactly that condition likely to be closely watched in its effects on individual families and communities at large. Its effects, in relation to the propagation of the species, and to the health of offspring, must always, as now, have formed points of extreme practical interest in a sociological sense. To-day, we deeply concern ourselves with questions of the inheritance of disease, and with considerations relating to the descent of ailments handed on from one generation, often with increased force, to succeeding races of men. From such an inquiry it is impossible to exclude the marriage-question, and among the details of matrimonial science that concerning the marriages of blood-relations holds an important place.

Excluding from our present inquiry all other relationships, however, the marriages of cousins may be dealt with as specifically as the subject will admit. There is an undoubted prejudice, often distinctly expressed by public sentiment, against such consanguineous unions. Without being able to point to exact evidence of their evil results, public opinion alleges, in general terms, that the nearness of blood implies a tendency to weakness in the offspring of such marriages. In this latter expression we can again trace the tacit fruits of experience. Most persons know the desire of breeders of cattle, sheep, horses, pigeons, and other animals, to infuse "new blood" into any given strain of animals. The latter phrase has become a household word among us, expressive of the necessity for infusing new vigour into any movement or undertaking. The opposite condition of "breeding-in," implying the mating together of animals which are related to each other by ties of blood, and of kith and kin, is believed to be attended by ruin to the flocks and herds. Even in the poultry-yard, the "breeding-in" tendency

is avoided as far as possible. There is a sure prospect of a brood of weaklings where the parents represent themselves the progeny of related birds.

In his dealings with plant-nature, something of the same idea animates the gardener and horticulturist. Botany teaches us that the vast majority of plants do not fertilize their own ovules with their own pollen. On the contrary, pollen from one plant is carried by wind, by insects, or other means, to other plants of the same species. There are thousands of ingenious "dodges" and devices in nature which operate to produce this end—the throwing of new blood into the plant-strain. You get more seeds and healthier plants when you cross-fertilize than when you self-fertilize. Such is the general rule of plant nature; and, as regards animals, the same remark, as a general truth, holds good.

There is one consideration, however, which must be taken into account in dealing with the subject of consanguineous unions in man, and in the animals he breeds. We must allow something, if not much, for the effects of civilization, and of the altered constitution of races and individuals which civilized life implies. I mean that what holds good of wild races may not, and often does not, apply, in all its force, to races which have been bred and multiplied under the influence of civilized conditions. Mr. Darwin and others have shown us there is a danger in arguing of wild and civilized, or artificially-bred plants and animals (men included) as if their conditions of life were similar. Hence, the question which seems clear enough, as applied to living beings in a state of nature, is admittedly complicated when we come to deal with animals and plants which have long been artificially bred, or, in a word, "civilized."

The whole argument, as applied to man and his consanguineous marriages, as far as I can discover, turns on this point—whether or not civilized life and its conditions alter or modify the laws of healthy marriage, so as to cast a doubt on the alleged evil effects of the union of those near of kin. In other words, while, in a state of nature, the marriage of cousins might be held to be an unwise thing—and, in time, a directly injurious proceeding, resulting in weak offspring—can it be held that in a state of civilization such marriages are likely to prove unhealthy unions in the sense just indicated? Scientific men are much divided on this point, and diverse opinions prevail regarding the "yea" and "nay" of the matter before us.

When the question is examined in detail the complexities of the position increase. We are reminded that so opposed to the marriage of those near of kin was the Romish Church, that only the strong will of Henry VIII. was able to remove the Papal prohibition. In 1540, a Marriage Act was passed, which had the effect just named. Church prejudice, added to popular distaste for such marriages, came to the front in asserting the evil results of these unions. Niebuhr, in his "Lectures on Ancient History," may be quoted, as an example of a writer who asserts that the Ptolemies—a most closely interbred race—were, in consequence, a degenerate dynasty, But, as a writer remarks, that dynasty continued for three hundred years, while the history of Cleopatra, who, though the last sovereign, was not the last descendant, can hardly be quoted in seriousness as illustrating the record of a degenerate body or a weakly mind. This criticism will illustrate the difficulty which environs the subject, and it also exemplifies the conflicting statements and arguments we continually encounter in our search after the truth.

By way of showing what is thought of the ultimate dangers which, according to some thinkers, are liable to attend consanguineous marriages, I may instance the opinions of Dr. Shuttleworth, of the Royal Albert Asylum, Lancaster. This observer some time ago communicated to the British Medical Association the results of the inquiries which he had made into the influence of consanguineous marriages on the offspring. For want of a uniform basis for comparison, positively accurate conclusions are hard to reach. His opinion on the subject, generally expressed, is that "first-cousin marriages are, to some extent, favourable to the production of idiot children." But extending his inquiries to the life-histories of the parents, he found that in the greater number of cases, causes of idiocy could be discovered in addition to, or independently of, consanguinity. This, says a writer, is in harmony with the conclusion published by Dr. C. F. Withington, that morbid inheritance, rather than specific degenerative tendency, will account for all the infirmities met with in the offspring of cousins. We may therefore assume that "the great danger in the intermarriage of cousins lies in the circumstance that when there is a neurotic (or nervous) inheritance, there are two certain disease-factors to contend with, rather than a possible one." On the whole, "the balance of evidence would appear to be in favour of the conclusion that where a close scrutiny fails to discover any heritable weakness, neurotic or otherwise, consanguineous marriage *per se* is not necessarily a thing to be prohibited."

Even tolerably far back in the history of the question, as affected by modern science, I find a writer, Mr. W. Adams, declaring, that "there is no physiological law against consanguineous unions; by which it is meant to be affirmed that there are no injurious physical consequences which necessarily and universally follow them." This author goes on to say that, "In the human race the alleged bad effects are not proved; and they are disproved," he contends, "by the occurrence of the alleged cause without these bad effects, and of the bad effects independently of the alleged cause. Further, there is no proof of the physical deterioration of these divisions of mankind amongst whom consanguineous unions are known, more or less, to have prevailed. Ancient history furnishes no ground for supposing that the Persian and Egyptian nations suffered any physical degeneracy from that cause."

These remarks, it must be confessed, however, deal with communities or nations in the mass, and are of too general nature for accurate criticism. Moreover, the question, as it affects us socially to-day, is emphatically a personal and individual one. It is not a matter regarding the probable results of widespread cousin-marriages; but a question which a man or woman might, as an individual, ask of science—namely, "If I marry my cousin, what are the chances which await me of begetting healthy offspring, and which, in turn, await my children's children of enjoying health or suffering from disease?" Can the crowds of collated facts aid us in any way to reply to such a question? Judging from both early and recent utterances, I think they can. Meanwhile, it is necessary that we should glance at some details following consanguineous unions, both in man and in lower animal forms.

(To be concluded.)

Disagreeable moisture of the hands may be overcome by rubbing the hands several times a day with the following mixture: Tincture of belladonna, half an ounce; eau de Cologne, four ounces.

THE CHEMISTRY OF THE HOUSE.

By Dr. Drinkwater, F.C.S., &c.
Lecturer on Chemistry in the Edinburgh Medical School, &c.

EIGHTH PAPER.

A LUMP OF COAL AND ITS USES.

Coal consists of partially-decomposed vegetable matter that grew and flourished on this earth in prehistoric times. From the fossils found in coal we know that it consisted at one time of large trees allied to the ferns, as well as to the botanical group known as *Coniferæ*, or cone-pines (*e.g.*, pines, firs, &c.). In the coal seams, portions of these trees, in a fossilized state, are constantly being found, and less frequently a complete tree is observed standing *in situ*. By examining thin slices of coal under a microscope the vegetable structure can be readily made out. From these and other facts, geologists have come to the conclusion that coal existed at one time as large forest trees; that owing to some change brought about by water or volcanic action these trees have been buried by sand and silt, which has ultimately become hardened into stone. The vegetable matter has decomposed, the pressure of the surrounding material preventing the escape of gaseous products, which have thus, as it were, been forced back into the pores of the coal. This change is spoken of as *bituminization*.

This process is apparently going on in the present day, but on a much smaller scale than in the days of the coal formation.

An ordinary peat bog gives us an opportunity of commencing our study. We have a mass of decomposing and decomposed vegetable matter, the lower layers of which are sustaining considerable pressure. The peat bog encourages the growth of some varieties of bog mosses; these die, decay, and are merged gradually into the general mass of the bog. Here is a kind of coal in the earlier stages of its formation. If a sod of dried peat be subjected to artificial pressure it assumes a hard, coaly appearance, similar, in fact, to what is known as brown coal; this brown coal being in all probability a product intermediate between turf and ordinary coal. The *lignites* (as the brown coals are termed), however, contain changed woody tissue which a peat never does; so that although the mode of formation is the same, the original material differs.

Sometimes we find mud and vegetable matter have been hardened together; then what is called a shale is produced. Some of these shales are used as fuel in localities where coal is scarce, whilst others are used for the manufacture of paraffin oil and other useful substances, which will be treated of in a future article.

Our chief interest in coal lies in the fact of its serving as our fuel, both for domestic and manufacturing use, as well as its being the source of illuminating gas and the prime mover of our machinery. Why does coal burn? To answer this question we must explain the theory of combustion. Coal consists of carbon, hydrogen, nitrogen, oxygen, and a varying amount of ash or mineral matter which we see as the white or rusty-red dust left in a grate after a fire has burned out.

The first four named ingredients are *elements*, and from what we have already said about chemical action and its powers we shall be prepared to find that they do not much resemble coal. *Carbon* is best known to most of us as charcoal—a black, dull, lustrous solid. The other three constituents are colourless gases. *Hydrogen* is very inflammable, burning with a very hot but non-luminous flame. *Oxygen* exists in our atmosphere, and under ordinary circumstances does not burn, but enables other substances to burn. *Nitrogen* also exists in atmospheric air, but it has no special chemical powers. In the gaseous condition, it shows no inclination to join with other substances in chemical union.

Let us now burn a piece of carbon in a bottle, so as to collect anything which may be formed; we shall find it has a red glow and it burns slowly away, leaving a small quantity of white ash which is visible, and a bottle, full of colourless gas, which we can prove to have some peculiar properties differing from air. In the first place, it puts out a lighted candle—that is to say, it has properties exactly opposite to atmospheric air. If we put a little clear lime water into the bottle, we should find it turned milky. These experiments would teach us that the bottle contained carbonic acid gas; it would also teach us the first chemical fact connected with combustion, viz., that carbon burns in air to form a new compound—carbonic acid gas.

We will now experiment, and see what the hydrogen forms when burning. This can be easily done by any one who possesses a gas-stove or burner for boiling a kettle. One who has even a little bump of observation, must have noticed that when a bright tin or copper kettle is placed on a lighted gas-stove the outside becomes covered with small drops of water. Have you ever thought it worth while to inquire where this water came from? The gas contains *hydrogen*, and on burning it unites with the oxygen to form water, which is deposited or condensed on the surface of the cold kettle. A similar set of reactions will bring about the formation of water in the burning of coal. The *nitrogen* unites with some of the *hydrogen* to form *ammonia*—a substance which is contained in an ordinary smelling-bottle.

On account of the imperfect construction of our stoves and fireplaces, a large quantity of the carbon escapes combustion, and is carried up the chimney as soot. The waste of fuel that is going on continually by this imperfect combustion is hardly realized. In addition to this, the fogs of our large towns are mainly caused by the smoke in the atmosphere, each little particle of soot floating in the air acting as a point around which moisture condenses. In furnaces and boiler-flues, a special construction allows the smoke to pass through the fire a second time; this, of course, removes the difficulty; but as long as we continue to use the wasteful open fire, it is to be feared that a smoky atmosphere must be the result. The day may come when fuel will not be quite so plentiful; then we shall be forced to employ some more economical method of heating our dwelling-houses, and shall be only too pleased to retain the heat of combustion in our rooms, rather than let the major portion of it pass up the chimneys.

What becomes of the soot, which the sweep looks upon as his perquisite? We all have some dim notion that it is valued by the farmer as a manure; but as to the exact ingredient contained in soot which makes it valuable we have, I suppose, little or no notion. I have already shown that during combustion the nitrogen of the coal unites with the hydrogen to form ammonia. This substance passes up the chimney with the other products of combustion, and is retained in great measure by the soot, constituting the only manurial value of a chemical nature in soot.

What we call fire, then, or combustion, is simply a form of chemical action in which heat and light are given out, and no matter whether we deal with a coal fire, a wood or a peat fire, the chemical reactions involved are similar; the ultimate chemical nature of all these substances being the same, therefore the products of the action are the same.

Fire has always been a somewhat mysterious thing, until the light of modern science threw a light upon its nature. In somewhat recent times it was classed as an element; in more ancient days it was worshipped as a god. The religious ceremonies of the Druids, in all probability, partook to a large extent of the nature of a fire-worship. The ancient Greeks used fire and smoke as a method of divination. Amongst the superstitions of our own country many are closely connected with fire. In many parts it is considered unlucky to give, or allow to be carried, any fire or light from a house on New Year's Day. The old Beltane fire still kindled in some parts of Scotland is a remnant of fire-worship; and the children, whilst jumping over or rushing through their bonfire, little imagine they are carrying through part of the mystic ceremony of fire-cleansing advocated and carried out by their fire-worshipping progenitors.

The powers of evil, too, have been supposed to exercise special power over fire, and the old custom of placing a poker against the bars of the grate when a fire shows little inclination to burn up is the old method by which our forefathers and foremothers—for the fair sex are always more or less superstitious—exorcised the evil demon who prevented the chemical action which we have been explaining bringing about combustion. Why the demon should be so spiteful it is hard to imagine; perhaps demons do not like fire. If all we are told about them be true, however, such a small fire as we are able to kindle could not do them much harm. I may add that the efficacy of the poker was due to its making the sign of the cross with the bars of the grate.

Our article on coal would hardly be complete without some allusion to, and explanation of, those cases of spontaneous combustion which sometimes occur when large masses of coal are stored in heaps and exposed to rain. Any one who has examined a piece of coal must have noticed small, glittering particles scattered over it, like grains of brass. These metallic-like looking particles consist of what the mineralogist would call *iron pyrites*. Chemically, they consist of iron and sulphur; when they are moistened and exposed to a current of air, they undergo chemical change by uniting with some of the oxygen of the air; during the change great heat is given out—sufficient, in fact, especially if the coal be small, to ignite the mass.

During the last two years, a new form of coal fuel has come into use, viz., the Briquette. It is made from the waste coal dust which accumulates at pit-heads and about collieries. Until briquettes were invented, there was no practical use for this substance; it accumulated in large quantities, and was allowed to burn to waste in many cases. Briquettes are made by mixing the coal-dust with tarry matter, and subjecting it to heavy pressure by means of hydraulic presses. They do not burn with the same cheery glow that a lump of coal does; but they are invaluable for keeping a fire in at a small cost, and on breaking up, when required, give at once a cheery fire. At present, we cannot call them economical; but as the demand for them increases the cost of production will be lessened, and before long briquettes may be a valuable and cheap form of fuel.

Among the curious facts brought out at the late Congress on Tuberculosis was that persons who have had small-pox are peculiarly liable to tuberculosis. M. Landousy stated that for this reason persons pitted with small-pox should never be employed around the tuberculous wards of hospitals.

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

WEAK LUNGS.

There is a popular notion abroad that life, force, and strength are almost directly derivable from meat. Even among medical men the old misconception is still entertained by many that increased work causes more meat to be used up in the body than would be the case otherwise. The fact of the matter is, that increased work calls for more starch, sugar, and oil in the food supply, and that, with or without work, just so much meat passes out of the body daily as is taken in.

"Let me understand you," says one; "is it possible that on the day I work hard more meat will not be excreted than on the one when I rest?" We answer—"No more." Doubtless this will startle many a reader; and well it may. The outcome of this error is unfortunate in many ways. The poorer classes believe that nothing gives them strength like meat. "Bread is to be dearer this winter," remarked the writer to an ignorant but successful man. "That won't make any difference to me; I'll eat meat," he responded. Puffiness under the eyes, and other things, indicated that he had better not, for the kidneys proved to be already overworked.

Said one of the best authorities of digestive ailments, the other day—"We know very little really about digestion." It is hard to feel this, after a dozen years spent over the subject, but the statement is the truth. We find, for example, in the muscles a digestive ferment like pepsin. What is it there for? Probably to digest. If the muscles do not in a way digest the particles with which the blood-vessels supply them, how are we to account for assimilation. Similarly with the nervous system—how does it assimilate the food except by digestion? If the digestive organs are weak, how are we to account for the compensating digestive work required, except on the hypothesis that the tissues do it themselves. Nothing tends to weaken the digestive processes of the body like over-feeding. Look at one fed to excess with meat. The whole system is deranged with biliousness and with constant malaise; the face is dull, the complexion clouded, the tongue coated. There are minor degrees of this biliousness, and to dispel the tired, weary sense, recourse is had to meat. Yet this is the very worst thing that could be done.

We have said that work does not increase the ratio of meat excreted to that ingested; yet, as Dr. Pavy says, "at the same time, common experience seems to show that a plentiful supply of nitrogenous matter in the food tends to increase *the capacity* for the performance of muscular work. If, however, it does so in any other way than by supplying material for nutrition and the secretions, and so contributing to the production of a fully-nourished and vigorous state of the system, we have no data before us to indicate how."

"Observations tend to show that fats are force-yielding substances, and that the peculiar forces of the body are mainly derived from the fats we consume" (Ringer).

"Fats, like phosphate of lime, are necessary both to growth and nutrition; for, in the most vitally-endowed organs, fats are found in excess, and abound wherever cell-growth proceeds rapidly. It abounds even in disease, for much fat is found in fast-growing cancer; it is found, moreover, associated with the more highly-organized constituents. Thus the fat existing in pus is chiefly asso-

ciated with the corpuscles, comparatively little being found in the serum. Observations day by day demonstrate more and more the importance of fats as tissue-forming substances. Facts like these obviously bear on the use of oil in disease" (*Ibid*).

Now, if in these processes oil enters so largely, where does it come from, if extra oil be not taken with the meals? The answer is plain enough—from the body itself; and this is one reason why it wastes. In bronchitis, consumption, and pleurisy there is a drain upon the oil of the body, and either one of two things must happen: more fatty food than usual must be supplied, or the patient will lose ground. Seldom is the truth more plainly put, seldom is it of more vital import.

The most efficient fattening, "tissue-forming," "force-producing," digestive food for invalids and infants is the solution of cod-liver oil (Kepler's). Apart from whatever qualities the extract of malt in it may have *per se*, the oil is taken in a form which offers every facility for the further changes necessary for its absorption and assimilation.

INFECTION IN FLIES, STAMPS, AND CIGARS.

FLIES, aside from being pests, are actually conveyers of contagion. The fly can communicate virus from an open sore, and can carry this from one person or place to another. This may not be credited, but it has been proved by direct experiment to be not only possible, but an actual fact. The common house-fly, by lighting on a diseased spot, either in an animal or a man, and then passing to a healthy subject, has been known to impart the infection to the latter. Whether the poisonous matter be an animal virus or a germ of disease, a bacillus, does not matter; and in this connection it is well to speak of other common methods of possible disease infection. A postage stamp may in various ways convey contagion. One of the simplest and most plausible is that in which a postage stamp, partially attached to a letter to pay return postage, is sent by a person infected with some disease to another person. The disease is transferred, in the first place, to the adhesive stamp through the saliva, and in being attached to the letter by the receiver the poison may be transmitted to him in turn through the saliva.

Another cause may be the infection of the stamp with disease germs. The stamp, having been exposed in a room where a diseased person lies, may become slightly moistened and thus retain the germ. That this is true can be proved very simply by a microscopical examination. We often see a person holding change for a moment in the mouth, probably not knowing that investigation has shown that disease germs can be carried by money. If one could see through what hands the money has passed, they would hesitate before using such a third hand. Silver money is as bad as paper money; but while many would hesitate to hold a dirty bank-note in their mouth, they think that a silver piece, because bright, is apparently clean.

Cigars may convey contagion, especially syphilis. We have seen a note in which a physician gave an excuse for not loaning a light to a friend that he was afraid of contagion; but if he was so afraid he should have been consistent and refused to smoke the cigar. Cigar wrappers are in the cigar factories, especially in Cuba, moistened with the lips and tongue, and the persons who roll the wrappers are by no means of the highest reputation. Disease can be carried in this way. Any one who uses a towel in common with the public, or a piece of soap, or brush and comb, or any requisite of the toilet, runs the risk of possible infection.

The germ theory of disease is to most people a very vague one. There is a general idea that disease is carried by germs, and that the air is filled with these, and it is a wonder to most people that every one is not so afflicted. The laity conclude that the germ theory is an absurdity and a contradiction. They do not consider the element of a fertile soil. The germ is the same as a seed, and all organic bodies are reproduced by seed. We must plant seed in a soil suitable for it, and the surroundings—heat and moisture—must be adapted to it if it is to grow. As we descend in the scale of organic life we find that some of the lower animals can hardly be distinguished from plants, and these are reproduced not by seed, but by a process of division or budding. A part of the animal is divided and separated and forms a new animal.

As we descend in the scale, we find that instead of seeds we have spores, as in ferns; but these serve the purpose of seeds, and demand a fertile soil before they can grow. Of many million spores, but one or two may serve their purposes; the rest die without giving any result. As we descend still lower, we find that fungi and moulds need not only a fertile soil, but a peculiar soil, and many of them will not grow except in or on another organic body.

The theory of disease germs is founded on the knowledge of the actions of the lower animals and plants. The bacillus may be an animal or it may be a plant, poisonous in itself or simply a carrier of contagion. It may even be a result of disease, and have nothing to do with its cause except as a foreign body. Still, as we find it present, and find it always present, we are necessarily induced to believe that it is an active agent, but in order to reproduce itself it must have a fertile soil. This it finds, as a rule, in a person whose constitution is run down from overwork, lack of rest, poor living, or disease. It may be introduced into the system, directly into the blood, through an open wound, thus inducing septicæmia, a state of poisoned blood, or it may be introduced indirectly into the blood through the alimentary system. In this case it must be inhaled or eaten with food. In either case it is absorbed, or perhaps actively works itself through the mucous membrane. Once in the blood, the bacillus grows, as a rule, by division, and multiplies to an enormous extent.

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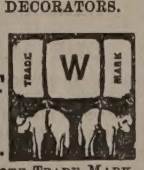

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"In bringing up a child, think of its old age."—*Joubert.*

THE PREVENTION OF PUERPERAL OR CHILDBED FEVER.

From the excellent introductory address at St. Thomas's Hospital, by Dr. Cullingworth, we take the following extracts:—The mortality of childbirth, said the lecturer, was much higher than it was popularly supposed to be, no fewer than 3,877 deaths having been returned as due to this cause in England and Wales in 1886, including 479 in the single registration district of London. The most reliable statistics went to show that the greater part of this mortality, at least 65 to 75 per cent., was due to puerperal fever. He hoped before concluding to succeed in convincing them that almost the whole of this enormous loss of life may in future be avoided, and that puerperal fever, both in its fatal and non-fatal manifestations, may be practically stamped out.

The subject of the nature, causes, and treatment of puerperal fever had long had a fascination for medical writers, but little or nothing had been known as to its true cause until quite recently. Certain tragic occurrences, which took place from time to time brought home, in a very painful manner, the fact that the disease was communicable from patient to patient through the medium of doctor, midwife, or nurse, and the further fact that it might be carried to lying in women from the *post-mortem* room. The discovery of the active part played by germs, in the production of all forms of blood poisoning, puerperal fever among the rest, had furnished the explanation of these and other cognate facts, and had suggested the means of prevention. He need not, in that hospital, remind them what a revolution antiseptic measures had produced in surgery. What he now desired to impress upon his hearers was that they were capable of effecting an equally stupendous revolution in obstetrics.

It had been held that puerperal fever was, in a large proportion of cases, due entirely to conditions within the patient's own body. He agreed, however, with Fritsch that to speak now-a-days of "the existence of a spontaneous infection was to take a long step backward," and not only so, it was to paralyze effort and destroy hope. There was abundant evidence to show that the disease always depends on the introduction of germs from without. "The doctrine of autogenesis (self-infection)," says Professor Parvin, "is a confession of ignorance, the creed of fatalism, the cry of despair, the very pessimism of obstetric medicine." He hoped that day to contribute in some small degree towards the overthrow of a doctrine that had done incalculable mischief.

Already, the practice of disinfection in midwifery had achieved wonderful results. In the lying-in hospital in Vienna, the largest institution of the kind in the world, the mortality, reduced by hygienic reforms from 28 per 1,000 in the years 1857-62 to 16 per 1,000 in 1863-80, had fallen since the introduction of antiseptics to seven per 1,000, or less than one per cent. At Dresden, Prof. Leopold had succeeded in reducing the total mortality of the lying-in hospital from 50 per 1,000 in 1872 to 10 per 1,000 in 1886-87, and had so nearly banished puerperal fever that only one fatal case had originated in the hospital out of 1,388 women attended last year, and no fewer than 95 per cent. of the patients had made an absolutely normal recovery.

Turning to the United States, both New York and Boston were able to furnish similar testimony, the mortality from puerperal fever in the New York lying-in hospital having become reduced from 60 per 1,000 in 1883 to two per 1,000 in 1885-86; and that in the Boston hospital from 55·5 per 1,000 in 1882 and 45·8 per 1,000 in 1883, to 16 in 1884, 6·4 in 1885, and none in 1886. Scarcely less striking was the record of the Maternité, at Paris, the total death-rate in which had fallen from 93 per 1,000 in 1858-69, first, owing to sanitary improvements, to 23 per 1,000, and then, after the adoption of antiseptics, to 11 per 1,000. Such instances could be multiplied almost indefinitely.

He would only quote another instance, that of their near neighbour, the General Lying-in Hospital, in York-road. Until the year 1877, that hospital was scarcely ever free from puerperal fever, and the mortality, was at times fearful. On several occasions the hospital was closed for long periods, and thousands of pounds were spent on sanitary improvements. In 1879 the hospital was re-opened, after having been closed for two years, and had since been conducted on antiseptic principles. The result was that the mortality, which, from 1833 to 1860 averaged 30 per 1,000, and from 1861 to 1877 17 per 1,000, had fallen during the last eight years to six per 1,000, and puerperal fever had been almost entirely banished. Only one death had occurred from this cause during the last three years, and it had become quite unusual for there to be even a slight rise in a patient's temperature during convalescence. In the face of such results as these it was surely time to give up talking of a variety of puerperal fever arising from self-infection.

He desired that day to plead for the more general adoption of antiseptics in obstetric practice. The lying-in hospitals had very properly led the way, and it now rested with those engaged in private practice to take the matter up. It was obvious that the 2,078 deaths certified as having occurred in England and Wales from puerperal fever in 1886 (the last year for which the returns have been published) could not all have taken place in the hospitals. Indeed, two-thirds of them occurred in counties where not a single lying-in hospital existed. It was not, therefore, a disease of hospitals alone. The only way to avoid this terrible mortality, and to avoid also the enormous amount of puerperal disease which, because it was not fatal, remained unrecorded, was for every practitioner to recognize his individual responsibility in the matter.

The use of antiseptic precautions in midwifery practice in Germany was made compulsory by the State. The tendency of public opinion in this country was not in the direction of compulsory legislation in such matters. The use of antiseptics in Great Britain was, and was likely to remain, a question of individual responsibility, not of penal enactment. Surely it ought not on that account to be considered the less binding.

"I have now," said the lecturer, "stated my case. My plea has been on behalf, not of the sickly and aged and useless members of the community, but of the mothers of this country, whose lives and health are of an importance quite incalculable. Tragedies such as those I have felt it my duty to relate to you are still being enacted in our midst. I know of a country town not very far from London where, within the present year, puerperal fever singled out the patients of one of the local practitioners exactly as it did at Plymouth and other places fifty and a hundred years ago. . . .

"May I, in conclusion, borrow the words of one whom

the whole English-speaking profession regards with affection and with pride, our venerable American *confrère*, Oliver Wendell Holmes, who, writing five and forty years ago of similar catastrophes, rose to an eloquence which even he has never surpassed? 'It is,' he says, 'as a lesson rather than as a reproach that I call up the memory of these irreparable errors and wrongs. No tongue can tell the heart-breaking calamity they have caused; they have closed the eyes just opening upon a new world of love and happiness; they have bowed the strength of manhood into the dust; they have cast the helplessness of infancy into the stranger's arms, or bequeathed it, with less cruelty, the death of its dying parent. There is no tone deep enough for regret, and no voice loud enough for warning. The woman about to become a mother, or with her new born infant upon her bosom, should be the object of trembling care and sympathy wherever she bears her tender burden or stretches her aching limbs. The very outcast of the streets has pity upon her sister in degradation when the seal of promised maternity is impressed upon her; the remorseless vengeance of the law, brought down upon its victim by a machinery as sure as destiny, is arrested in its fall by a word that reveals her transient claim for mercy; the solemn prayer of the liturgy singles out her sorrows from the multiplied trials of life to plead for her in the hour of peril. God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly, or selfishly!'"

CLEANING BOTTLES.

A good housewife never throws away anything that can be of use at any time, consequently there is, in a short while, an accumulation of articles of all kinds. Among this promiscuous gathering, old bottles hold a prominent position. Although where there are many bottled preparations brought into the house it may not be necessary to save all the empty bottles, nevertheless, a good many should be set aside waiting future use. These should always be well cleansed before putting away, so they may be ready when wanted for use. It is very annoying, particularly when one is in a hurry, to find a bottle will have to be washed out before it can be used. If a medicine bottle is what is required, and the case urgent, a bottle is generally bought at the druggist's, rather than to wait for the cleaning of one of those in the house. If each bottle is cleaned thoroughly, as soon as possible after emptying, dried, corked, and placed away, it will be ready when wanted for use, and is a much better way than allowing them to accumulate for some time, then washing a number at a time. The work is much easier done immediately after emptying, as there are many liquids if left standing any length of time (particularly certain medicines containing acids) that will stain a bottle so that it will be almost impossible to clean it.

Most medicine bottles can be cleaned by washing thoroughly in hot soap suds and rinsing in cold water; but there may be some that will require different treatment. Some druggists clean narrow-necked bottles by putting in bits of blotting paper into a pulp, shaking well, emptying, then rinsing. This will make them very clear. Frequently, bottles will be musty when standing for any length of time, and in this case if they are filled with cold water and let stand an hour or two the musty smell will disappear. If the bottles are greasy, fill with warm water, put in a piece of washing soda, allow it to dissolve, then shake the bottle thoroughly, empty, rinse, and put to drain. A few drops of ammonia in a bottle of warm water will be found excellent to clean a greasy bottle. Powdered charcoal and water is good to clean a bottle that is not greasy.

Ketchup bottles are hard to clean, particularly if left standing for even a short time. Fill each bottle with water, to which add a few drops of ammonia, and let soak for an hour; then empty, and if any particles adhere to the glass, refill the bottle with ammonia water, put in an egg-shell crushed fine, shake thoroughly, empty, and rinse. If the egg-shell is not convenient, use in its place fine shot, cinders, pebbles, or even small beans. Preserve-jars, if left standing for any length of time after taking out the fruit, are generally hard to clean. Any of the above ways are good; but one that is said to be best of all is to fill the jar with hot water and put in a teaspoonful of pearlash, let soak a short time, empty, and rinse. Before putting away bottles, be sure they are thoroughly dry, and if you cannot wait for them to drain dry, wipe them dry on the inside with a cloth and stick. Always cork them, or your work will have gone for nothing. If you have not the regular kind of cork, use paper, or anything to keep out the dust. Some people, after rinsing and drying a bottle that has been used for medicine, rinse again with alcohol, cork, and put away for use. If preserve-jars or bottles are very musty or foul, put in some powdered charcoal, let remain a few hours, and it will purify them. Keep medicine bottles together, so that when wanted they may be easily obtained, no matter how much of a hurry you may be in. —*Housewife.*

The pollen of the plane tree is said to produce an influenza precisely like hay fever and rose cold.

Psychic Effects of Hasheesh.—Mr. A. M. Fielde has recently recounted his experiences under the influence of hasheesh. He smoked the hasheesh until he felt a profound sense of well-being, and then put the pipe aside. After a few minutes he seemed to become two persons: he was conscious of his real self reclining on a lounge, and of why he was there; his double was in a vast building made of gold and marbles, splendidly brilliant, and beautiful beyond all description. He felt an extreme gratification, and believed himself in heaven. This double personality suddenly vanished, but reappeared in a few minutes. His real self was undergoing rhythmical spasms throughout his body: the double was a marvellous instrument, producing sounds of exquisite sweetness and perfect rhythm. Then sleep ensued, and all ended. Upon another occasion sleep and waking came and went so rapidly that they seemed to be confused. His double seemed to be a sea, bright, and tossing as the wind blew; then a continent. Again he smoked a double dose, and sat at his table, pencil in hand, to record the effects. This time he lost all conception of time. He arose to open a door: this seemed to take a million years. He went to pacify an angry dog, and endless ages seemed to have gone on his return. Conceptions of space retained their normal character. He felt an unusual fulness of mental impressions,—enough to fill volumes. He understood clairvoyance, hypnotism, and all else. He was not one man or two, but several men living at the same time in different places, with different occupations. He could not write one word without hurrying to the next, his thoughts flowing with enormous rapidity. The few words he did write meant nothing. This experience admirably illustrates the close relationship between states of real insanity and transitory affections induced by psychic poisons.

Public Health

"Health is the first Wealth."—*Emerson.*

SEWER-GAS POISONING.

By Henry Hun, M.D.,

Professor of Diseases of the Nervous System, and of Psychological Medicine, Albany Medical College.

FOURTH AND CONCLUDING PAPER.

Not infrequently sewer-gas poisoning shows itself in diseases of the nervous system. The most common of these diseases thus produced is neuralgia, as can be seen from the following cases:—

Case XXV.—Mrs. L., aged 30, slept in a middle room opening out of a bath-room. An examination of the plumbing showed that it was very old, and leaked in almost all parts, the bath-room being particularly defective. During five or six weeks she suffered from intense neuralgic pains, which commenced in the lumbar region and extended around into the groin and down the posterior and other outer surfaces of the thighs and legs. These pains recurred daily, and were so intense as not only to require morphia hypodermatically, but they reduced the patient to a very low and precarious condition. She was also extremely weak, and had no appetite. When the trouble with the drain was discovered, she was moved to another house. After she was taken to the other house, there was no return of the pain; her appetite returned, and she quickly regained her strength. There could hardly be a more striking example of neuralgia due to sewer-gas poisoning than this one.

Case XXVI.—Mrs. T., aged 32, lives in a house in which the plumbing was found to be in an extremely defective condition. In the latter part of December she had an attack of fever, lasting three days, the evening temperature being 103·8° on one night, and 103° on another. Even after the fever left her, she continued to be weak and to have no appetite. On the first of January she was attacked with severe neuralgia of the ninth right intercostal nerve, which continued till the third week of January, when she went out of town. Early in February she returned to her house, and, on the second day the pain returned, and was accompanied by a slight attack of jaundice. She then moved into another house, and in a couple of days her neuralgia ceased, and in a week the jaundice disappeared also.

There is another form of nervous disease which I am inclined to think may also be caused by sewer-gas, and that is myelitis of the anterior horns, which is, probably, an infectious disease.

Case XXVII.—Mr. B., aged 29, worked in a little wooden shed built on the very edge of the Albany Basin, and just over the outlet of one of the principal city sewers. The stench at times was so bad that the clerks had to relieve each other frequently, and go up the street for a little fresh air. He worked in this place, from May till October, for three summers. During the third summer he noticed that he was very drowsy during the day, although somewhat restless at night, and that his appetite was very bad. On the first of September, 1880, at five p.m., his legs suddenly gave way under him, and he fell. He managed to walk home, and to creep upstairs on his hands and knees. The next day he could move his arms and legs a little, but inside of the three days he lost completely all power of voluntary movement, except that he could masticate his food pretty well: for a short time he was unable to close his eyes. There was no disturbance of sensibility, but a complete loss of all the reflexes—superficial, deep, and organic. He went through a typical attack of myelitis of the anterior horns, with great muscular atrophy, and the electrical reaction of degeneration. At the end of a year he could get about on crutches, and in about two years and a half he could walk without a cane. Even at the present time, seven years after his attack, he is emaciated and weak.

Case XXVIII.—Mr. B., aged 42, was obliged to inspect, for several weeks, a sewer which was being repaired, and which emitted a very bad stench. In the course of this inspection he was attacked by a chill, followed by fever; and during three weeks he had a low, continuous fever, with frequent chills. After the fever ceased he did not regain his health, but during the next year steadily lost flesh and strength, his appetite became poor, he had neuralgic pains in various parts of the body, and his health failed in every way. His urine was free from albumen and casts. At the end of a year his legs suddenly gave way under him, and he fell several times in the street. He then developed a well-marked case of myelitis of the anterior horns, from which, after several years, he made a complete recovery, and is now in good health.

Finally, I will report a case in which the diagnosis as to the nature of the disease is doubtful, but which seems to be an undoubted case of sewer-gas poisoning.

Case XXIX.—J. L., aged 6½, slept in a middle bedroom, with connecting bath-room, in a house in which there was a free escape of sewer-gas, especially in this bath-room. The sanitary condition of the house was described under the case of his mother (Case XXV.), who presented a well-marked case of severe neuralgia, due to sewer-gas poisoning. His grandmother, who had lived in the same house, suffered from great prostration and an obstinate bronchitis, both of which quickly disappeared when she moved to another house. I saw the boy in consultation once only. He had, for a week or more, such a severe frontal headache, probably of a neuralgic character, as to suggest the possibility of cerebral disease; but no other cerebral symptoms could then be discovered. His tongue was coated, pulse was rapid, there was decided enlargement of the spleen, and his urine contained albumen. During the first two weeks of his sickness he had a fever ranging from 99° in the morning, to between 100° and 101° in the evening. He became extremely emaciated. About a week before his death, there was, during several days, a partial suppression of urine. Cheyne Stokes respiration appeared, he gradually sank, and, without any expression of pain on his face, he died, a little less than three weeks after the commencement of his sickness. No autopsy was allowed.

In all of these twenty-nine cases there was an escape of a large amount of sewer-gas into the air which the patient breathed, and at the time that each case was observed it seemed extremely probable that the sewer-gas was the cause of the disease. I have notes of a number of other cases of this class, but as they are not in all respects convincing, I have not reported them; and, I would only say, that it seems to me that phthisis, and also diabetes mellitus, may sometimes have their origin in sewer-gas poisoning.

From a consideration of these twenty-nine cases, we may conclude that it is probable that the following conditions may result from sewer-gas poisoning:—

1. Vomiting and purging, either separately or combined.
2. A form of nephritis (or kidney-disease).
3. General debility, in some cases of which the heart is especially involved.
4. Fever, which is frequently accompanied by chills.
5. Sore throat, which is frequently of a diphtheritic character.
6. Neuralgia.
7. Perhaps, also, myelitis (or inflammation of the spinal cord) of the anterior horns.

These conditions may occur separately, but are frequently combined, and it is especially common for the fever to be associated with the other forms of sewer-gas poisoning.

Finally, in cases of sewer-gas poisoning there is one group of symptoms which is almost always prominent, and these symptoms are: Loss of appetite, drowsiness, extreme prostration, and a dull, unpleasant feeling in the head. Whenever this group of symptoms occurs, not as the result of an attack of acute disease, but as a chronic condition, we are justified in suspecting that the patient is exposed to sewer-gas infection.

If we summarize the cases of sewer-gas poisoning which are scattered through medical literature, we find that more or less satisfactory evidence has been adduced that the following diseases may result from sewer-gas poisoning.

8. Zymotic or infectious diseases, such as typhoid fever, pneumonia, diphtheria, cholera, dysentery, cerebro-spinal meningitis (inflammation of brain and spinal cord), erysipelas, and scarlet fever (in these cases, undoubtedly, the sewer-gas merely acts as a vehicle for the specific germ).
9. A condition of asphyxia or suffocation, which, in its severe form, is characterized by coma, convulsions, and collapse.
10. Puerperal fever.
11. Abscesses.
12. Lymphadenitis.
13. Acute aural (or ear) catarrh.

The latest "victim of tobacco" is a sad case, indeed. He is seventy years old, has smoked for sixty years, and last week he married a woman four years his senior. Tobacco-smoking affected his brain.

The Growth of Luxury. — Prosperity encourages luxury; luxury is enervating, and encourages sloth; luxury tends to produce, and in the world's history has often produced, national decay. Now, the growth of luxury for the last half century has been very great and very general. We do not merely mean that the rate of living has advanced. This of itself is not necessarily to be deplored in any class, and in some classes is a matter for serious congratulation. That an agricultural labourer, for instance, should be able to procure more food, better clothing, better housing, and better education for his children than he could fifty years ago is a matter to rejoice over, and a state of things to secure by every proper means. What we mean is, that the scale of comfort deemed necessary by every class has enormously grown. And the tendency is ever upward. Young men beginning life try to start where their fathers left off. Some quarter of a century ago there was a discussion in the newspapers as to the prudence or otherwise of young persons in the upper classes marrying on an income of three hundred a year. Three times that income would be now considered inadequate by the critics who conducted the discussion.—*Quarterly Review.*

Healthy Houses

"A happy home must be a healthy home."—*Anon.*

DAMPNESS IN FOUNDATIONS.

A wall constructed of brick or stone of any quality whatever will be subject to the damp which exists in the soil, and which will enter in all directions and in all parts where the wall is in immediate contact with the ground. The extent to which this damp will penetrate cannot be determined, and it may rise to a very great height above the level of the soil; and if it be arrested more or less, that will be caused by the influence of the neutralizing power of the temperature of the atmosphere; so that a wall which may be very damp at the beginning of summer will be much less so at the end of the dry season, and particularly so if immediately exposed to the sun, but the following winter the damp will return, unless the original causes of humidity be subdued.

It is desirable in all and every class of soil to have a substratum of concrete under the footings. For the purposes of damp this need not be very deep, perhaps not exceeding a foot high. As soon as the footings and lower part of the wall are carried as high as the level of the ground inside, it will be well to introduce a thin sheet of lead the whole thickness of the wall, or a layer of bituminous substance as thin as possible, so as to penetrate the brick and stone and fill the pores, or a double course of thick slate set in cement. The purpose of the sheet of lead and of the bituminous substance and the slating is to prevent the wet from rising up from the footings. But other precautions are necessary to prevent the access of damp from the surface of the ground next the outside face of the wall. A facing of stone is the best remedy. It need not be very thick, but it is well for it to be at least two or three feet high; and if a small interval between this facing slab and outside surface of the wall, so much the better, provided a circulation of air be kept up in the space. By this provision neither the rain beating against this part of the wall nor the water returning from the pavement or ground will be able to reach the main substance of the wall; for although the facing slabs may be temporarily damped, they will soon be dried without communicating the damp to the body of the wall.

The inside of external walls should never have the plastering applied immediately on the face. They should be battened by means of long narrow slips of wood attached by holdfasts to the inside face of the wall. These slips or battens receive the laths upon which the plastering is applied. The space formed by the battens between the wall and the lathing effectually keeps out the humidity. No impervious covering should be laid on wooden floors in the lowermost story—such as oil-cloth, for instance. A certain moist air always rises from the ground and escapes through the joints of the boards; but if this be intercepted by an oil cloth, the air will rot the boards and oil cloth in a very few months. But it is important to keep the damp from the floors which come upon the ground, that is, the floors of the lowermost story.

It is evident that the timber of stone slabs should not be in immediate contact with the soil. For this purpose let a stratum of concrete be laid over the whole surface of the house, six or nine inches thick at the least. Upon this form sleeper walls or piers up to the necessary height, and on them lay the plates or paving slabs. As

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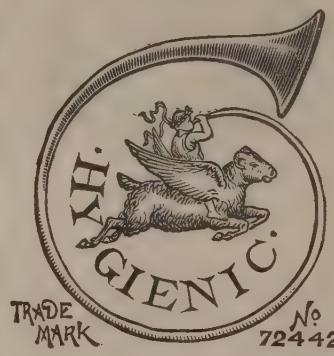

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an additional precaution, a thin sheet of lead might be laid under each pier on the bed of the sleeper walls. In palaces, as a greater precaution, and in buildings where expense is a secondary object, a thickness of asphalt might be laid on the concrete. In the dwellings of the poor it is expedient, at all events, to have the sleeper walls or piers—which need be only half brick wide and one course high—without the cement, and generally that will be a sufficient precaution. Where stone paving forms the floor, bricks must be laid under all the joints. Thus will the humidity be more or less prevented from reaching the floors. But of all precautions to prevent damp entering by the face of the wall, the best remedy is to have an area which, by keeping the soil at a distance, precludes its fatal effects on the wall. These areas may be three or more feet wide, and may serve as a passage all round the building and afford access to cellars outside, as in the London houses. Or if this, from want of space or the expense, be impracticable, it will be sufficient to have what are called blind areas, with convex walls against the earth—the points of contact with the outer wall of the house being as small as possible, to diminish the possibility of the communication of damp.

Patient (to young Sawbones, who is about to cut off his arm): "Do you think the operation will be successful, doctor?" Young Sawbones: "Of course it will; I'll have that arm off in less than ten minutes."

During last year, 993 bodies were cremated in Buenos Ayres, of which number 742 were those of persons who had died of cholera, small-pox, and other contagious diseases.

A New Remedy for Burns.—Many remedies have at one time or another been proposed for the surgical condition following the application of excessive heat to the body, and, while some of these are of value, still all are more or less unsatisfactory. The alleviation of the pain and suffering attendant upon burns is one of the most important points in the case, towards which the surgeon directs his efforts. The shock from this cause alone is sufficient oftentimes to produce death, and always is great. Accidentally, I recently discovered a remedy, which is easily applied and exceedingly prompt in its action. I was called in some haste to a little child about three weeks ago, who was badly burnt about the hands and face from falling on a hot stove. The burns were deep, the pain excessive, and the shock very considerable. I hastily sent to the drug-store for a mixture of lime-water, olive-oil, and carbolic acid. While waiting for this, I prepared to give the child a hypodermic injection of morphine, with which to allay the agony, which was so great that convulsions seemed imminent. While I was getting ready to do this I espied upon the shelf a bottle of *Pinus Canadensis* (colourless), which I had some time before ordered to be diluted as an internal wash for the mother. Remembering its wonderful soothing influence in acute inflammations, I at once concluded to try it. Taking a corner of a soft handkerchief, I rapidly painted the injured parts, when, like magic, the pain ceased. You can well imagine my surprise and delight at the result. I directed a camel's-hair brush to be purchased, and had the mother make free applications, and the case had no other treatment, save a little iodoform ointment later on. Since this, I have tried it in several cases, both slight and severe, and with the same delightful results. The preparation used was made by the Rio Chemical Co., of St. Louis, Missouri. —*W. C. Wile, M.D.*

Popular Science Papers

"Blessings on Science! When the Earth seemed old,
When Faith grew doting, and our reason cold,
'Twas she discovered that the world was young,
And taught a language to its lisping tongue."

—*Charles Mackay.*

RECOVERY FROM LIGHTNING-SHOCK.

Dr. J. B. Paige read before the Medico-Chirurgical Society of Montreal an account of a case of lightning-shock which resulted in recovery.

The accident occurred in Prescott, Mass., during a terrific thunderstorm, July 29th, 1887, about five o'clock p.m.

Lightning struck the house, to all appearance the chimney of the upright part first. At the roof the current divided into three parts, one following the chimney down to the floor of the second story, then passed along a stove-pipe out of the chimney, and partly to a nail in the floor by the legs of the stove, and thence by the timbers to the earth. A second subdivision of the current followed a rafter on the north side of the roof, after leaving which it could not be traced. This rafter was completely torn from its place. A third current passed down a rafter on the south tide of the roof. At the lower end it divided again, one portion following the finish of the roof, passed along the other side of the L to the opposite corner, followed the track of a rolling-door, and reached the earth by the corner post of the house. The other part coursed along the studding of the house, near the window, and passed to the earth. Attached by a screw to the upper casing of the window was a large iron hook on which was suspended, by a brass chain, a bird-cage. One part of the current, going by this chain to the bird-cage, left it at one corner, entered the body of the subject of the accident, and left the room by a nail in the floor.

That the electrical influence in this quarter was intense is proved by the fact that the links of the chain in some places were nearly melted apart, while the solder at the corner of the cage where the fluid left was completely melted. Again, the nail by which it passed through the floor was considerably roughened. It appeared as if it had been partially melted at a high temperature.

The patient was thrown from the chair in which she was sitting directly across another chair, a distance of two or three feet. She was taken out to the piazza immediately, and her condition was found to be as follows: completely unconscious, motionless, muscles relaxed, left eye closed, right open, face purple, pulse at wrist imperceptible, neither heart-sounds nor respiratory murmur to be heard.

Later, an examination showed the course of the electric current to be as follows: it struck the head above the left eye midway between the eyebrow and hair, which was apparently the part nearest the corner of the bird-cage; passed along in front of the ear, then to the central line of the thorax, descending by the stocking-supporter, which was attached to the corsets; thence to the top of the stockings, leaving marks upon both limbs, but more especially on the left, on the back of which, just above the knee-joint, was a burn about the size of one's hand. It had the appearance of an ordinary burn, and was only superficial. No trace of the current could be detected again until the foot was reached, from which it passed off by the joint off the great toe, tearing a place about two inches in diameter in the stocking and slipper,

but not leaving the slightest mark upon the skin. With the exception of the burned spot on the posterior part of the left leg and one or two small burns on the body and the right leg, inflamed lines alone marked the course of the electricity in its passage over the body.

After removal of the patient to the piazza, the clothes about the neck and chest were loosened, and artificial respiration commenced. In from three to five minutes the first sign of life appeared in the flexion of the right leg. The dark colour disappeared from the face, and the pulse could be felt at the wrist. It was then weak, rapid, and irregular. The treatment was kept up for ten or fifteen minutes, until the body began to feel cold, when the woman was removed to the house, and placed upon a bed. The moving caused a disturbance of the circulation, as was shown by the pulse, which became very faint and fluttering. In order to encourage the circulation, hot fomentations were applied to the chest, and as soon as they became cold were replaced by fresh ones.

Soon a new train of symptoms set in. There was difficult respiration. The mucus and saliva, which were very abundant, had gravitated back, and could not be swallowed because of complete paralysis of the pharynx, &c. There was, in fact, paralysis of almost all the muscles of the uppermost parts of the body, including the arms. The symptoms were those exhibited by an animal when being asphyxiated: violent muscular contraction, difficult and forced respiration, &c. To remove the saliva and mucus which caused the obstruction, the head and trunk were lowered. Handkerchiefs were also used. These were placed over the finger and passed back as far as possible into the throat, and in this way large quantities of the salive and mucus were gotten away.

From one-half to three-quarters of an hour after the accident, consciousness began to return, and the muscles of the arm to regain strength. Sight was restored to the right eye, although it could not be moved. Though the subject could hear, she could not speak. This was shown by the fact that when asked to press the hand if she felt better she responded. About this time, paralysis began to disappear gradually from the tongue. Improvement continued: brief intervals of sleep were enjoyed through the night, and there was absence of any considerable pain.

In addition to the paralysis, the left eye was seriously affected. In discussing the case, Dr. Wesley Mills asked whether the patient would have recovered without the assistance rendered just after the accident. Considering that respiration was suspended, that the circulation, even with artificial respiration, was so feeble that the temperature fell, that consciousness did not return for so long, it does not seem reasonable to believe in the possibility of spontaneous recovery. But the case does seem to teach, in the clearest way, the importance of using such means as those employed in this instance promptly and perseveringly.

The *Lancet* says that scientific teaching is becoming so common that it is desirable to guard against the random, careless employment of high-sounding terms. The misapplication or wrong pronunciation of a technical term may sometimes be merely a "source of innocent merriment," but it frequently serves to damage a reputation. There are few things more pitiable than a medical man who continually "airs his knowledge" by the use of technical terms which he has no reason to believe that his hearers understand. It is well for our profession that scientific teaching is lessening the number of such unfortunates.

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sydney.*

Poisonous Effect of Petroleum.—In a letter to the *Medical News*, Dr. W. H. Sharp of Volcano, W.Va., discusses the poisonous effects of petroleum. For nineteen years he has practised medicine in an oil town, surrounded by oil-wells, and in daily contact with labourers connected with the oil industry. He says that in considering the effects of petroleum it is necessary to know clearly what kind of oil is indicated, as there are different grades of natural oil, which must have different effects as they are richer or poorer in the lighter products, as gasoline, benzene, naphtha, and carbon-oil. The heavier natural oils, of specific gravities ranging from 26 degs. B. to 35 degs. B., such as are produced in West Virginia at this point, in Pennsylvania at Franklin, and at a few other points, are very different in composition to the lighter petroleum oils which range from 35 degs B. to 50 degs B., such as are so largely produced in Pennsylvania and Ohio, and are used for refining and for illuminating purposes. The former are almost devoid of the gasoline, naphtha, and benzine found in the latter, and do not make a satisfactory carbon-oil. Where this heavy oil is produced there is found less gas than accompanies the light oils. The worker in these heavy natural oils runs no risk at any time from the inhalation of gas, even in the tank-sheds where the oil is stored, and the engineers at the pumping-stations of the transportation companies are exposed to no dangers from the inhalation of gas. In all the light-oil districts serious accidents are quite frequent from the inhalation of gas. It is the practice to have the receiving tanks at the wells closely housed with wooden sheds, at the roofs of which are ventilators for the escape of gas. This past spring an oil-man, who had gone to North Baltimore, O., for work, was suffocated in one of these tank sheds while making a run of oil; viz., running the oil from the receiving-tank to the transportation or pipe-line company's tanks. It is said that the men employed in this work by the transportation companies become somewhat accustomed to this gas, and can then remain longer exposed to it before feeling its effects. Oil-well drillers affirm that the sense of suffocation comes on very suddenly. When the gas is very plentiful around drilling-wells, and if there be any delay in getting pure air, suffocation ensues. In the section around Volcano, even when drilling in light-oil territory, there is little danger from this, as the derricks are seldom tightly housed, as is the practice in other regions. Heavy lubricating-oils applied locally are not irritating; they are as bland to the skin as the best petroleum jelly or ointment. They have had a well-deserved reputation as soothing applications to burns and wounds: the heavier the oil the better it is suited for this purpose. These oils do not irritate any inflamed surface, but relieve the pain as well as does the *linimentum calcis*, or white-lead dressing. The only disadvantages in its use are, that the cloths become stiff from drying, and the application is a dirty one, penetrating the bedding, &c., if applied freely. A light oil 40 degs. to 50 degs. gravity would probably prove irritating from the presence of benzene, &c. Internally, these heavy natural oils have been used in pulmonary troubles, viz., bronchitis and phthisis; persons taking them in doses of from one to four drachms several times a day. Dr. Sharp has never known or

heard of any ill effects from their administration. He has made a careful search in the *American Journal of the Medical Sciences* since 1869, and in other journals, and finds only two cases of poisoning by petroleum recorded; viz., in the April number of the *American Journal of the Medical Sciences* for 1873, and in the *Medical Record*, Sept. 26, 1885. From these two cases petroleum would not seem to be very poisonous, and to be chiefly eliminated by the skin and kidneys, especially the latter, unchanged by transudation. That it is the lighter oils in the crude petroleum which produce the intoxicating effects, and that the *acne* seen in workmen is due to something used in the process of refining, are highly probable: certainly they do not arise from contact with the natural oils of the heavier gravities, viz., 26 degs. B. to 35 degs. B.

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A Medicine-Chest for the Tropics.—Messrs. Burroughs, Wellcome & Co. have just fitted up for the German Expedition for the relief of Emin Pasha a very complete medicine-chest, containing all medical and surgical requisites for two years' travel. The chest is the one made by the firm which is known as the "Congo," being similar to those supplied to Mr. H. M. Stanley, which figured in our issue for Jan. 27th, last year. Certain important improvements have, however, been effected, more especially the exclusion of the teak-wood lining, whereby more space is secured, and the substitution of screw-capped metal vessels, in place of glass bottles, for all solid substances. The chest measures about 14 inches by 9 inches by 8 inches, and is made of thin but strong iron plate; the lid is boxed, and is used for holding the surgical appliances and external remedies which it is undesirable to have placed with those which are to be used internally. As giving an idea of what are considered desiderata for the treatment of disease in tropical regions, we mention the contents of the chest. In the form of tabloids there are:—Antipyrin, 5 grs.; arsenious acid, 11/50th gr.; bismuth subnitrate, 5 grs.; bisulphate of quinine, 5 grs.; calomel, 1 gr.; cathartic compound, 5 grs.; chloral hydrate, 5 grs.; chlorate of potash, 5 grs.; iodoform powder; powdered ipecac., 5 grs.; lead and opium, 5 grs.; Livingstone's rousers; opium, 1 gr.; potassium bromide, 5 grs.; potassium iodide, 5 grs.; potash permanganate, 1 gr.; quinine, iron, arsenic, and strychnine; rhubarb and soda-rhubarb (compound); saccharin, ½ gr.; sodium bicarbonate, 5 grs.; sodium salicylate, 3 grs.; trinitrine comp. (*nitro-glycerine co.*); Warburg's tincture, ½ drachm; and zinc sulphate, 1 gr. These are packed in metal bottles of about 6-oz. capacity, and not less than 500 doses of each medicine are given, but of those that are required to combat malarial disorders — such as quinine and Warburg's tincture—about 2,000 doses are given. The Warburg's tincture tabloids represent over 120 ozs. of liquid, that is, nearly the entire capacity of the chest; yet the bottle containing the tabloids is only one of several dozen which are in the chest. All liquids are packed in square white flint-glass bottles, each bottle fitting into a metal case. The following are the liquids:—Castor oil, chlorodyne, dialysed iron, valoid fluid extract of ergot, essence of camphor, eucalyptine (oil of eucalyptus globulus), ginger valoid fluid extract, hazeline (volatile principles of hamamelis), sulphuric ether, and turpentine. For external use:—Blistering fluid, carbolic acid, chloroform, corrosive sublimate in powder, nitrate of silver, strong solution of ammonia, tincture of iodine, and oxide of zinc are supplied; and the other contents of the chest are:—Epsom salts, linseed meal, a case containing twelve different hypodermic kinds of tabloids with syringes, lanoline (Liebreich), mercurial ointment; isinglass, mustard, and sticking plasters; bandages, bistoury, caustic-holder, clinical thermometer, needles, oiled silk, scissors, and silk ligature. The chest containing the whole of these remedies weighs less than 40 lbs., so that it can be carried by a boy bearer.—*Chemist and Druggist.*

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Is Consumption contagious?—An international congress of nearly five hundred physicians, lately in session in Paris, was practically unanimous that consumption, or tuberculosis, is contagious and transmissible between man and beast. There was unanimity, also, as to the prime necessity of boiling milk and cooking meat well as a preventative of much of the consumption which now afflicts the human race. None of these conclusions are new, but they derive additional force from the unanimity with which they were declared and accepted as facts well established. It was stated that if boiling milk and thoroughly cooking meat are practised as a rule, one of the leading causes of tuberculosis will disappear. By tuberculosis is to be understood not consumption alone, but various other forms of the same disease, and also meningitis, white humors, and scrofula. It seems to have been very generally admitted by the congress that tuberculosis may be easily communicated through the digestive organs by our food, or through the blood by inhalation. The expectoration of a consumptive dairyman, carelessly spit upon hay which the cow eats, may give the animal consumption, and she in turn may distribute the seeds of the disease through her milk or flesh to the human family. People of robust health and strong constitution may escape the contagion, but the proportion of those liable to it under these circumstances is very large. The statement was made by one of the leading members of the conference that over a fifth of the population of the world dies of tuberculosis. The congress did not discuss so much the subject of the cure of the disease as the features of its origin and prevention. The central lesson of the meeting is summed up in the warning to "Beware of saliva, cook your meat right, and boil your milk thoroughly." Consumptives should not be shut up in close ill-ventilated rooms, but should sleep with open windows, and take all the fresh air possible. Various remedies have been suggested, but they are at best palliatives, and yet the doctors were careful to have it stated in the published reports of their proceedings that they do not say that the disease is incurable. The revivifying and curative virtues of open air life, night and day, in a suitable and mild climate, are said to be wonderful. The air should be dry and bracing, and the food wholesome and nourishing.—*Baltimore Sun.*

Châlets in London, Berlin, and Paris.—The application made by the International Hygienic Society to the St. Pancras Vestry to erect a *châlet* at the southern end of High-street, Camden Town, has, we regret to see, met with considerable opposition, and been rejected. There is urgent need of such accommodation in London. In Unter den Linden in Berlin, under the very windows of the Royal Palace, and on the Boulevards of Paris, in the most fashionable and brilliant quarters, such necessary accommodation is provided, and Londoners and their visitors to the metropolis suffer much from the ill-timed and senseless squeamishness which prohibits it. The *châlets* in Unter den Linden are admirable models, in every way unobjectionable, and most serviceable to the health and comfort of the wayfarer.

"ELECTRICITY IS LIFE."
(TRADE MARK.)

PULVERMACHER'S
WORLD-FAMED
GALVANIC BELTS,

FOR the CURE of NERVOUS DISEASES.
HAVE RECEIVED TESTIMONIALS from
THREE PHYSICIANS to
HER MAJESTY the QUEEN,
THE ACADÉMIE DE MÉDECINE of Paris and
FORTY MEMBERS of the
ROYAL COLLEGE of PHYSICIANS of LONDON.

RECENT TESTIMONIALS.

GALVANISM *v.* NERVOUS EXHAUSTION.
St. Peter-street, Ipswich, October 29th, 1888.
Dear Mr. Pulvermacher,—I have just received a very gratifying letter from a lady patient who, under my advice, adopted your treatment. For years past this lady has devoted her life to the management of a large orphanage, but owing to the severe mental strain and anxiety connected with it her health quite broke down, and she was unable to attend to her duties.
She now writes to me: "I am truly thankful to tell, and I know you will be glad to hear, that I have derived great benefit from the Pulvermacher Belts you sent me, so much so that I have been able to take up my full work again, and even to add to it, by the opening of a new branch home for the children."—Yours very sincerely, ROBERT SEAGER.
J. L. Pulvermacher Esq., 194, Regent-street, W.

GALVANISM *v.* RHEUMATISM.
Fyvie, Aberdeenshire, Oct. 27th, 1888.
Dear Sir,—I want you to send me a Galvanic Belt for a friend, and, with regard to my own case, I may mention that on the arrival of the Combined Band, on Friday, the 12th inst., I had it immediately applied as directed, with the astonishing and comfortable result that the following morning my rheumatism was gone, and I have not felt anything of it since.—Very gratefully yours, THOMAS GRANT.
Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION.
Sandy-street, Newry, 25th October, 1888.
Gentlemen,—I am happy to tell you that I am now quite restored to my usual health and strength, thanks to your Galvanic Appliances.—Yours sincerely, J. TAYLOR.
Messrs. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* NERVOUS DEBILITY.
Leeds, 24th October, 1888.
Dear Sir,—I really thank you for your kindness and advice, and I consider myself a living testimony to the value of your Galvanic Appliances.—Yours sincerely, W. GEORGE.
Mr. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION.
Newstead Station, Nottingham, 17th Oct., 1888.
Dear Sir,—I am pleased to inform you that through steadily wearing your Appliances, I am now restored to perfect health, and I should have written to you before, but I was away from home.
Thanking you for your kindness in the past,—Yours truly, THOS. METCALFE.
J. L. Pulvermacher, Esq., 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION and PAIN in the BACK.
Abercairny, Scotland, 11th October, 1888.
Dear Sirs,—I am pleased to inform you that I have steadily improved since I got your Appliances, and the severe pain in my back, which I had for eight or nine months, has entirely disappeared, to my great comfort.
You can give my address to any inquirer, and I shall be only too pleased to testify to the great benefit I have received from your treatment.—Yours truly, T. H. CRIEFF.
Messrs. J. L. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* EXTREME NERVOUS DEBILITY.
Newton Solney, near Burton-on-Trent, October 3rd, 1888.
Dear Sir,—I hope you will excuse me not sending you word sooner of the great benefit I have received in wearing one of your Galvanic Belts.
I was suffering from extreme nervous debility, and could not stand or walk, and for nine months I was quite helpless, but since wearing your Galvanic Belt I have gradually improved, and can now get about, and with the exception of a little nervous twitching, I am wonderfully well.
You may make what use you like of my name and address.—Yours faithfully, SAML. WARDLE.
Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION.
The distressing symptoms of Nervous Exhaustion and Debility are speedily removed by means of PULVERMACHER'S world-famed GALVANIC BELTS, which are so arranged as to convey a powerful electric current direct to the affected parts, gradually stimulating and strengthening all the nerves and muscles, and speedily arresting all symptoms of waste and decay.

ADVICE PERSONALLY or by LETTER, free of charge.

FOR FURTHER TESTIMONIALS, both Medical and Private, see new Pamphlet, "GALVANISM: NATURE'S CHIEF RESTORER OF IMPAIRED VITAL ENERGY," post free on application to

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Sanitary Appliances, Etc.

SELLERS' EASTON'S SYRUP.

THE fame of "Easton's Syrup" as a familiar nerve and general tonic is, of course, well known. Few preparations have attained a higher reputation than this, which, officinally, is known as the Syrup of the Phosphates of Iron, Quinine, and Strychnine. The various qualities of Easton's Syrup made by druggists, however, appear to differ materially in their degrees of efficiency, and also in their palatability. The preparation made by Mr. J. Sellers, of 57, Farringdon-road, London, E.C., examined by us, is one of the most elegant and satisfactory made. It is a clear and admirably compounded specimen of Easton's Syrup, and as such may safely be taken in all cases in which a nerve-restorer and general tonic is required. The adult dose is one teaspoonful (*i.e.*, one drachm) in a wineglass of water, preferably after food. Mr. Sellers supplies his Easton's Syrup in four and eight-ounce bottles, at the price of 1s. 6d. and 2s. 6d., respectively, or by post three stamps extra.

Our Letter-Box

"Conference [maketh] a ready man."—*Bacon.*

NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including Books for Review, Specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 2, PATERNOSTER-SQUARE, LONDON, E.C. *Those intended for the Publishing Office to be sent to* MR. A. P. WATT, THE PUBLISHER, *at the same address.*

RULES FOR CORRESPONDENTS.

OWING to the mass of letters which reaches us each week, we respectfully direct the attention of Correspondents, desiring replies in the LETTER-BOX DEPARTMENT of HEALTH, to the following rules:—

1. All questions are answered free of charge in the columns of HEALTH. A limited space only, is available for the insertion of replies each week.
2. All letters must be legibly addressed to "The Editor of HEALTH, 2, Paternoster-square, London, E.C.," *and to no other address.*
3. Questions to which answers are desired by post, are so replied to solely at the Editor's discretion. If no answer is sent by post, the query will be replied to in the "Letter-Box" columns of HEALTH. A stamped addressed envelope must accompany all queries to which a private reply is desired.
4. Addresses of physicians and surgeons will, as heretofore, be forwarded FREE to Correspondents on their enclosing a stamped addressed envelope for reply.
5. Correspondents are requested to write on one side of the paper only, and to make their inquiries as brief as may be consistent with clearness.
6. From the necessity of sending HEALTH to press early in the week, no Correspondent can be replied to in the "Letter-Box" columns in the same week in which the inquiry is received. Replies crushed out of any issue will be found in the succeeding number.
7. No Post Cards must be used in sending queries. Violation of this rule deprives the sender of the privilege of a reply.

LETTERS TO THE EDITOR.

COFFEE-DRINKING.

SIR,—I fear that "M. D." attempts to prove too much in his reply to Mr. Holaday. He goes so far as to say that coffee, taken in moderation, produces no evil effects—on the contrary, is beneficial. It is surely a begging of the question to assert that Mr. Holaday's eyes must be abnormally sensitive because coffee is found to be hurtful to them.

My doubts as to the conclusiveness of "M. D.'s" reply are founded simply upon my own experience. That experience is, first, that the moderate daily use of coffee, if continued for some time, has an injurious effect upon the eyes—making them inflamed, and depriving them of their proper humidity. That coffee should have this latter effect is only natural. Being a powerful diuretic, it tends to lessen perspiration; so it is only to be expected that it

should lessen, also, the secretion of the lubricating fluid of the eye. Query—A natural perspiration being so much of a safety-valve for the health of the body, and coffee decidedly lessening this, must not coffee be injurious rather than otherwise?

My second experience is that the moderate daily use of coffee, if continued for some time, has the effect of producing violent congestive headaches. This, also, is not a surprising effect, if we judge by what is universally known as to its action. The sleeplessness which it usually produces will, no doubt, be caused (if certain theories of sleep be correct) by a congested state of the blood-vessels of the brain. From both these observations I conclude that the evil effects of coffee are cumulative; and so, that all coffee-drinkers would do well to make it a rule to discontinue their coffee-drinking every now and then for a time. I believe that many suffer from coffee-drinking without attributing their sufferings to the proper cause.

I may add that I have found the occasional use of coffee beneficial rather than otherwise.—I am, &c., CLERICUS.

[The foregoing letter, handed me by the Editor of HEALTH for reply thereto, may be briefly answered. Does not "Clericus" see that he is only illustrating the relativity of the whole subject, inasmuch as he simply speaks of the effects of coffee upon himself as an individual, while he has no logical right or title to speak of such individual effects, as if they were represented in mankind at large? If the effects of coffee on the generality of mankind were such as he alleges, depend upon it we should hear frequently and loudly regarding coffee-disease. As things are, coffee-disease, either as represented in Mr. Holaday's lucubrations or in the experience of "Clericus," is utterly unknown as a general thing. If "Clericus" suffers from coffee-drinking, by all means let him give up that beverage; but his views are not likely to disturb the mass of mankind, because for most people coffee in moderation is a safe and agreeable adjunct to food.—M. D.]

QUERIES AND ANSWERS.

REPLIES: GENERAL, SANITARY, AND MEDICAL.

[Readers of HEALTH will kindly note that when back numbers of the journal are desired, the letters containing such requests and stamps for the numbers should be addressed to the PUBLISHER of HEALTH, 2, Paternoster-square, London, E.C., and *not to the Editor*.]

E. M.—Your questions can only be satisfactorily answered at all by a physician, after examining you. We advise you to see a competent physician in your city first of all, and submit your case to him.

PRINCESS.—1. Try Bayley's Cure (17, Cockspur-street, Pall-mall, S.W.); it is safe and effective. 2. Made in Birmingham, we believe. 3. Dahl's Cakes certainly. 4. Glycerine and rose water only.

MERGAN.—1. The Cellular Clothing Company's fabrics should suit you. See list of agents in advertisement appearing in our pages.

LEX.—For chapped hands use the following:—Glycerine, one ounce; rose water, half an ounce; carbolic acid, ten grains. Mix, and apply night and morning.

STUDENT.—Our advice to you is to read and study carefully what is said about cases like yours in the pamphlet, "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.); you will find full advice therein given you.

E. GALE.—The trusses of the Medical Battery Co. would suit the case you name. They are light and comfortable to wear, but must, of course, be properly fitted to the case. A personal visit should be made to 52, Oxford-street, W.

NOTARY.—Try the following lotion, a teaspoonful to be used in a wineglassful of warm water every morning as a mouth-wash; it will restore firmness to the gums when the teeth are loose:—Tannin, one and a half drachms; iodide of potassium, twelve grains; tincture of iodine, one drachm; tincture of myrrh, one drachm; rose water, to six ounces. Directions to the druggist are that he dissolve the tannin and potassium iodide in the rose water. To this add the tinctures, and strain.

CHARLES HENRY.—Press out the spots in the skin; take a Turkish bath occasionally, and hot baths at other times, and to ensure skin-action use Bayley's Soap; avoid fatty foods and salt foods; and take plenty of outdoor exercise.

ALBERTA.—Try the effect of hot hip-baths, to be taken at night before the period you name; and for three days before the period, take twice daily, two of Burroughs, Wellcome & Co.'s Tabloids of Dioxide of Manganese (Snow-hill-buildings, London, E.C.) after your food.

J. BELL.—Brush the hair regularly night and morning with a soft brush, and rub in a little of the following to the roots each morning: Eau de Cologne, two ounces; tincture of cantharides, two drachms; oil of rosemary and oil of lavender, of each, ten drops. Mix. Label: "The Hair Lotion."

CORROBORATIVE EVIDENCE.

IT is easy to make assertions, but often difficult to prove them. People now-a-days demand a verification of any statement that may be made, and it is right that they should. For months the columns of this paper have contained the most extraordinary statements, made by the proprietors of a much advertised article as to the merits of their remedy. To-day they present the testimony of our neighbours and friends in verification of what they have asserted in the past. Such testimony must be accepted and respected because it comes from people living right here in Surrey, where the truth of their statements can be easily verified. The following are published with the hope that the fullest investigation will be made by the public.

Mr. D. Mills, 2, Drakefield-road, Hatcham.—"I have found great benefit from disease by the use of 'Warner's SAFE Cure.'"

Mr. J. Prior, 244, Brockley-road, Brockley, S.E.—"I have been cured of indigestion, caused by sluggish liver, by the use of 'Warner's SAFE Cure.'"

Mr. J. A. Piccaver, 140, Stockwell Park-road, Brixton.—"Having been saved from a premature grave by the use of 'Warner's SAFE Cure,' I am anxious the world should know of its efficacy in curing Bright's disease."

Mr. E. Henry, 128, Hither-green, Lewisham.—"After a long spell of sickness, I have been restored to vigorous health by the use of 'Warner's SAFE Cure.'"

Mrs. Merrita Cox, 125, Albert-road, Peckham.—"I cannot express my gratitude for the benefit I have derived from 'Warner's SAFE Cure.'"

Mr. Emanuel Beebee, 47, Haymerle-road, Peckham.—"I suffered from stone in the bladder, and was told by my medical man that I must go to the hospital and have it cut out; I took 'Warner's SAFE Cure,' and was cured."

Statements like the above ought to be convincing; but if you still doubt, write to any of the above, or all of them, enclosing stamp for reply, when full particulars will be sent you. If you are feeling unwell and are ignorant of the cause, write Warner & Co. for Treatment Blank and have your case diagnosed free of expense.

"Warner's SAFE Cure" can be had of all chemists and medicine vendors in the United Kingdom, at 4s. 6d. per bottle, or of H. H. Warner and Co., 86, Clerkenwell-road, London, E.C.

J. K.—Wash the affected parts with Bayley's Soap only till you are well, and apply the following paste, night and morning:—Resorcin, one drachm; lanoline, vaselin, zinc oxide, and powdered starch, of each two drachms. Mix, to form a paste.

E. P. P.—Wash the parts regularly, night and morning, with tepid water and Bayley's Spermaceti Soap (17, Cockspur-street, Pall-mall, London, S.W.), and, after washing, apply a lotion consisting of equal parts of Hazeline and water.

A. PRATT.—The following is a safe cough mixture: Chlorodyne, one drachm; ipecacuanha wine, one drachm; syrup of squills, one drachm; glycerine, to make up two ounces. Label: "A teaspoonful in a little water at intervals.

L. M.—You must be properly fitted with spectacles, as a proper fit serves to cure such irregularities. Write to, or call upon, Mr. Browning, 63, Strand, London, W.C., and 15, Kensington-crescent, W., and take his advice regarding the glasses adapted for your cure.

G. E.—Superfluous hairs can only be satisfactorily removed by electrical means. Read the article on this subject in HEALTH, No. 149. We can send, if desired, on receipt of stamped addressed envelope, address of a specialist who removes hairs in this way.

ANDREW CLARKE.—For growth of the moustache or hair, you will find the following useful: Liquor ammonia (strong); chloroform and oil of jasmine, of each, half an ounce; castor oil, half a drachm; spirits of rosemary, to make up four ounces. To be kept in a stoppered bottle and labelled: "A little to be rubbed into the hair in the morning." Use, also, a little of an ointment composed of Lanolin, two drachms; and oil of jasmine, half a drachm. Rub this into the parts at nights, so as to prepare them for the lotion in the morning.

J. MEARS.—A depilatory is made as follows: Sulphide of sodium, three drachms; lime, ten drachms; starch, ten drachms. Make a paste with water; apply to the skin for two minutes only; then scrape off. To be used with care. No depilatory will prevent the hairs from growing again. Electricity alone can permanently remove hairs. See article in HEALTH, No. 149.

M. L. N.—You might give Pitkeathly Water a trial; or, when the smarting and irritation are present, try fifteen grains citrate of potash in half a tumbler of water twice daily, between your meals.

JAMES F. — Read the Pamphlet, "A Lecture to Young Men" (post free for 1s. 1d. from Mr. Renshaw, 356, Strand, London, W.C.), and note what is said therein about cases like yours.

EDINBURGH.—Take a vegetable dietary —stewed fruits, apples or oranges, &c., and whole-meal bread, with Grant's Oat Flour for supper and breakfast; avoid tea and coffee, and on each alternate morning take twenty drops Cascara Cordial, or two Cascara Tabloids, and see that you sponge with cold or tepid water each morning. Use Dahl's Cakes also.

LENNOX.—A thoroughly quack association, and, as such, one to be avoided. If you wish to consult a reliable physician, send us stamped addressed envelope, and we will forward address.

DON QUIXOTE.—1. Pulvermacher's appliances would certainly, in our opinion, act beneficially in your case. Give them a trial by all means, in conjunction with one or other of the tonics mentioned in the pamphlet you have read. 2. Late suppers are unadvisable under all circumstances. 3. Take your meal an hour before bedtime. 4. Yes, when you have recovered your tone. There is nothing seriously wrong with you; all that is needed is care of your general health, and the tonic measures above indicated.

VOCI.—Give the Soden Mineral Pastilles (advertised in our pages) a fair trial for your hoarseness. Sir Morell Mackenzie recommends them. You may benefit much also from taking a dessertspoonful of Thomson's Cod Oil Cream (Dublin-street, Edinburgh), after your meals, thrice daily.

CONSTANCE.—There is little doubt the defective condition of your teeth is at the root of the mouth-troubles. We advise you to allow a Chlorate of Potash Tabloid (Burroughs, Wellcome & Co.'s, and to be had of all druggists) to dissolve in your mouth occasionally, while as a mouth-wash use the Pyrethrine made by Mr. Birley, chemist, 137, George-street, Edinburgh. For the rest, consult a good dentist in your city.

PRUDENS FUTURI. — Your query is a childish one. Does not common sense teach you that the free use of soap and water to the parts each morning is part and parcel of ordinary cleanliness? You are only suffering from neglect of common cleanliness, and the regular use of soap and water is your cure.

W. J. T.—1. Rest after food, and masticate your food perfectly. Probably you swallow an excessive quantity of air with your food. Take five drops of Pure Terebene on a piece of sugar after your meals. 2. Only a nervous feeling. 3. Difference in anatomical build, often inherited. Nothing special to do with the health of the chest; although square shoulders probably indicate fuller chest-development at the apex of the lungs.

STUDENT.—Wash your hair once a week with Bayley's Spermaceti Soap, and rub into the roots each night a little glycerine of borax. Avoid the use of all hard brushes and small combs, which only increase the evil. If not cured, write again.

OMEGA.—1. Pain and difficulty in excretion. 2. Yes: an excellent preparation (Symington's). 3. Not likely to cause flatulence if well cooked.

FEMUR.—The system is a good one, but we are sorry we know of no classes such as you desire. You should try to form one in your school.

VERITAS.—1. The smoke test is that which should be applied. Oil of peppermint is also used, but all such tests have to be applied at the bottom of the drain, so as to test the efficacy of the house-appliances above. 2. Try the "Sanitas" preparations —powder and fluids—there are none better. 3. As a tonic, try a teaspoonful of Seller's Easton's Syrup (advertised in our pages), to be taken in a wineglass of water, twice daily, after meals.

ON GUARD.—The person named in the advertisement you send is a notorious quack. He was exposed in Manchester some years ago at the police-court there, in company with another person. Have nothing to do with him.

MONODY.—Please state exactly the kind of worms meant, and we will advise you.

POMPEIUS.—Apply to Messrs. Burroughs, Wellcome & Co., Snow-hill, London, E.C., and they will send you address of your nearest druggist who keeps the tabloids.

AN IMPECUNIOUS INQUIRER.—You suffer from a form of catarrh or cold affecting the hinder nostrils. You should try inhalations at bedtime of Friar's Balsam (a teaspoonful to a pint of hot water), or try what "Sanitas" Fluid will do, used as an inhalation—see advertisement in our pages. Brace up your system also by taking fifteen drops Fer Bravais after meals, thrice daily, in water.

MORBUS.—We should say Highgate or Hampstead, if you wish to be near London, or, if further off, Hornsey, Barnet, or Wood Green; Harrow and Watford are also suitable, and are all healthy places.

POVERTY.—You have no need to despair. Read the pamphlet, "A Lecture to Young Men" (post free for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.), and you will find full advice in its pages.

J. T.—We should advise you simply to be guided by your own personal feelings. If the affection gives you no trouble or pain, leave it alone. It is not in any way dangerous—the most that can be said of it is that it is sometimes painful or irritating. In the latter case, a good surgeon may operate on the veins, but much may be done by judicious use of the advice you have already received.

SOLICITOR'S CLERK.—The advice given in the present number to "Edinburgh" should be followed by you. To diet you must trust for a sure remedy, after the Cascara has begun the cure. Read also the article on "Glycerine and its Use in Constipation" in HEALTH, No. 285. Dahl's Cakes (advertised in our pages) will be found highly useful to you as a laxative food. Take plenty open-air exercise and a tepid sponge-bath each morning.

Horsford's
ACID PHOSPHATE.

A liquid preparation of the phosphates, recommended by physicians for

Dyspepsia, Mental and Physical Exhaustion, Nervousness, Weakened Energy, Indigestion, As a Drink in Fevers, &c.

It makes a Delicious Drink. Invigorating and Strengthening. For sale by all chemists.

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DOIGS "Specific" DROPS AND LINIMENT

KILL DISEASE IN EVERY FORM.

UNPARALLELED for Bronchitis, Diphtheria, Chest, Liver, and Kidney Complaints, Diarrhœa, Constipation Congestions, Rheumatism, Gout, Inflammations, Children's and Female Ailments, Fevers, Ulcers, Old Sores, Blood and Skin Diseases, Wounds, Pains, Bruises, &c., &c.

Of all Chemists, 1s. 1½d. per bottle; or post paid of the Proprietor, ALEXANDER DOIG, 7, St. Paul's Churchyard, London, E.C. Demonstrations Free from 10 to 4 daily.

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COAL TAR AND CARBOLIC SOAPS.

Is acknowledged to be the most practical and effective soap ever introduced. For Skin Affections and Toilet purposes it is eminently serviceable in producing a clear, smooth, and healthy condition of the skin and complexion.

Boxes of 3 Large Tablets, 1s. 1d., by post from the Sole Maker,

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And of all Chemists.

STOP THAT COUGH

BEFORE IT REACHES THE LUNGS

By taking a small Bottle of

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IT WILL SURELY CURE YOUR COUGH AT ONCE,

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SCOTT'S EMULSION will cure Consumption in its earlier stages without fail, and will surely relieve in the later stages and greatly prolong life.

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it will increase flesh and strength when all other remedies have failed.

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One tablespoonful of Mason's Extract of Herbs makes one gallon of splendid beer. Refreshing and non-intoxicating.

A Sample Bottle of either Essence or Extract sent on receipt of 9 stamps, or a Bottle of each for 15 stamps.

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FOR THROAT IRRITATION COUGHS & COLDS.

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Every sufferer is earnestly invited to try one box of these Pills and they will be acknowledged to be

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